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The Four Stages to Addressing Spectrum Supportability

By Thomas Kidd - April-June 2008

Federal regulation and Department of Defense (DoD) and Department of the Navy (DON) policy require that spectrum supportability must be addressed before acquiring communications-electronics (CE) systems and equipment that require use of the electromagnetic spectrum (radio frequencies).

CE equipment of this type is generally referred to as being "spectrum dependent" and includes all radar, unmanned aerial systems, unmanned ground systems, radios, sensors as well as other equipment. The spectrum supportability requirement pertains to organizations, including program offices, commands or organizations, that intend to purchase or lease spectrum-dependent equipment.

Within the DON, the primary purpose for addressing spectrum supportability, besides being mandated by the Office of Management and Budget (OMB), is to ensure that DON spectrum dependent equipment can, in fact, be used by the Navy and Marine Corps.

Although the requirement to address spectrum supportability is clearly stated in many DoD and DON policies, including acquisition and spectrum management policies, the purpose of addressing the methods of determining spectrum supportability is often misunderstood. In general, spectrum supportability is an assessment to ensure a given system or piece of equipment can be supported with radio frequencies within the geographical area in which it is intended to operate.

The complexity of spectrum supportability is dependent upon a number of factors. In the case of spectrum-dependent equipment procured to support forward deployed naval forces, ensuring spectrum supportability is operationally critical to the warfighter.

Ensuring worldwide spectrum supportability is certainly more complicated and requires more lead time than ensuring spectrum supportability solely within the United States. However, since the Navy and Marine Corps conduct training as well as day-to-day sustainment, addressing spectrum supportability within the United States is of no less concern. While the factors affecting spectrum supportability vary, the following provides an overview of the DON's spectrum supportability requirements.

Within the DON, spectrum supportability documentation is initiated by the program office or procuring organization by completing an electronic "DD Form 1494." The form is used to document the technical characteristics of the spectrum-dependent equipment such as the frequency or frequencies of operation, transmitter power and other information.

The acquisition of spectrum-dependent equipment or systems that are being developed by the Navy or Marine Corps requires the submittal of a DD Form 1494 at four stages of development.

- A "conceptual" 1494 (Stage-1) is submitted as early as possible within the development effort.
- An "experimental" 1494 (Stage-2) is submitted before the development of any prototype version of the system or equipment. If supportable, the approval of a Stage-2 1494 generally authorizes limited production for research and experimental purposes. An experimental 1494 should be submitted before Milestone B.
- A "developmental" (Stage-3) 1494 is required by Milestone C and generally authorizes an increase in production, providing that a positive spectrum supportability determination has been made.
- An "operational" (Stage-4) 1494 is submitted before full production. The acquisition of commercial-off-the-shelf (COTS) and non-developmental item (NDI) spectrum-dependent equipment or systems by the Navy or Marine Corps generally begins with the submittal of a Stage-4 1494.

The federal government is transitioning to a Web-based Federal Spectrum Management System (FSMS) developed by the National Telecommunications and Information Administration (NTIA). During the development of FSMS, the NTIA is introducing the Equipment Location-Certification Information Database (EL-CID), which will eventually replace the DD Form 1494 process. The latest version of EL-CID is available at [http://www.ntia.gov/ELCID/](#).

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release of EL-CID is available for download from the NTIA at www.ntia.doc.gov/osmhome/eicid/.

Within the DON, the Navy and Marine Corps Spectrum Center (NMSC) provides support to Navy and Marine Corps organizations addressing spectrum supportability. Additionally, all systems commands within the naval services have personnel with spectrum supportability expertise. The NMSC can provide these points of contact upon request.

The DD Form 1494 can be downloaded from www.dtic.mil/whs/directives/infomgt/forms/eforms/dd1494-1.pdf.

For more information, e-mail the DON Spectrum Team at DONSpectrumTeam@navy.mil.

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